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EXAMINER	
THOMPSON, JAMES A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/759,234	OKA ET AL.	
	Examiner	Art Unit	
	James A. Thompson	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 12, lines 9-18, filed 14 June 2005, with respect to the objection to claim 38 have been fully considered and are persuasive. The objection to claim 38 listed in item 2 of the previous office action, dated 01 March 2005, has been withdrawn.

2. Applicant's arguments filed 14 June 2005 have been fully considered but they are not persuasive.

Firstly, Examiner appreciates the further description on page 14, line 21 to page 16, line 9 of Applicant's arguments with regard to how Applicant developed the system in the present application and the problems that the disclosed system solves. However, the standard of patentability under 35 USC §102 and §103 is based on whether the full recitation of a claim, considered as a whole, is both novel and non-obvious with respect to the prior art. Since Examiner has rejected all of the claims over 35 USC §103(a), secondary considerations with regard to non-obviousness can certainly be considered. The present statement with regard to how Applicant created the system described in the present application is not, however, a sufficient basis for demonstrating any potential non-obviousness of the present claims.

Examiner will now address page 13, line 9 to page 14, line 20 and page 16, line 10 to page 19, line 7 the alleged lack of teaching of two of the limitations in independent claims 1, 34 and 35. Limitations (2) (as listed in Applicant's present arguments), particularly "such that transfer of the new

plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously" is a new amendment to claims 1, 34 and 35. Therefore, the new grounds of rejection which have been necessitated by the present amendments to the claims are given in detail in the prior art rejections below. Thus, Applicant's present arguments regarding Limitation (1) (as listed in Applicant's present arguments) are the only remaining arguments that need to be addressed in the present office action section.

Applicant argues that Crosetto (US Patent 5,590,284) discloses single-bus connections only, and thus does not teach that the image-recorder is connected to the dedicated computer by a second interface bus different from the first interface bus. *Examiner responds* that the portions cited by Examiner (figure 1(10,12,14) and column 5, lines 23-29 of Crosetto) clearly show separate bus connections controlled by a single master node (figure 1(100) and column 5, lines 33-40 of Crosetto). A master process node controls slave processor nodes (column 5, lines 23-29 of Crosetto). In order to control said slave processor nodes, commands and other data must be sent through the serial buses connecting the master node with the slave processors. Applicant has described the data that passes between the master node and the slave nodes as only being commands. Firstly, commands themselves are data. Commands sent from one computer node to another are comprised of data bits which must be received and interpreted by the receiving computer node. It is merely the way in which the data is *used* that makes the data a command, as opposed to data which simply resides on the receiving memory and is stored and/or manipulated by the computer. Further, the Crosetto reference itself describes the

transmission of data between the master node and the three slave nodes through serial buses (referred to as "links" in Crosetto). Column 5, lines 47-54 of Crosetto specifically states: "The master node 100 is directly connected with each of the first, second, and third slave nodes 200, 202, 204 by full duplex serial links 10, 12 14 respectively, capable of transmitting at a bi-directional rate of 2.4 Mbyte/sec. The master node 100 uses these serial links 10, 12, 14 to assign processing tasks among the first, second and third slave nodes 200, 202, 204 and *to monitor the state of each slave node at all times*" [emphasis added]. Thus, even if Applicant does not accept that commands are also data, though Examiner understands that commands are data, it is clear from a further reading of Crosetto that data is indeed communicated between the master node and the slave nodes and that figure 1(10,12,14) of Crosetto are indeed separate interface bus connections.

On page 18, lines 4-15 of Applicant's present arguments, *Applicant argues* that "Gropp [*Using MPI - Portable Parallel Programming with the Message-Passing Interface, second edition,* by William Gropp, Ewing Lusk, and Anthony Skjellum, pages 14-18 and 35-42] cannot discloses or fairly suggest anything regarding a scanning step and a writing step occurring simultaneously." *Examiner responds* that Examiner has not stated that Gropp alone teaches anything regarding a scanning step and a writing step occurring simultaneously. It is the *combination* of Kristy (US Patent 5,218,455), Crosetto and Gropp which teach the full recitation of the disputed claim language. The scanning step and writing step are taught by Kristy and Crosetto. Gropp is relied upon for the teachings regarding timing in parallel processing. The teachings upon which Gropp is relied on modify

the teachings already presented by Kristy in view of Crosetto. The precise in which the MPI_Send and MPI_Recv commands taught by Gropp would modify the teachings of Kristy in view of Crosetto have been explained in detail on page 5, line 11 to page 6, line 22 of said previous office action. It is also noted, as above, that the limitation "such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously" is a new amendment to claims 1, 34 and 35, and is thus discussed below in the prior art rejections. The new grounds of rejection presented therein have been necessitated by the present amendments to the claims.

Regarding official notice taken in said previous office action: Since Applicant has not timely disputed the official notices taken in said previous office action, the teachings presented in said official notices are hereby considered to be admitted by Applicant as old, well-known and expected in the art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 16-17, 21-22, 26, 34, 36/1-36/3, 36/16-36/17, 36/21-36/22, 36/26, 36/34, 37/1-37/3, 37/16-37/17, 37/21-37/22, 37/26, 37/34, 38/1-38/3, 38/16-38/17, 38/21-38/22, 38/26 and 38/34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284) and Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42).

Regarding claims 1 and 34: Kristy discloses a scanning step to scan a plurality of images corresponding to a separate customer order (column 4, lines 50-54 of Kristy) from a scanner (figure(12) and column 3, lines 10-17 of Kristy) into a plurality of digital images (column 3, lines 20-24 of Kristy), the scanner being connected to a dedicated computer (figure(14) of Kristy) by a first interface bus (column 3, lines 25-28 of Kristy). In order for the digital data to reach the dedicated computer, a first interface bus is inherent since there must be some form of digital data bus by which the digital data can be transmitted from the scanner to the dedicated computer.

Kristy further discloses a processing step to process the plurality of digital images (column 3, lines 62-67 of Kristy) and to combine the processed plurality of digital images into a record image (column 3, line 68 to column 4, line 5 of Kristy). The record image is the conglomeration of digital images that are stored as a record on a storage medium, and can therefore be selected and displayed rapidly (column 3, line 68 to column 4, line 5 of Kristy).

Kristy further discloses a writing step to write the record image by an image-recorder to a medium (figure(18) and column 3,

lines 62-68 of Kristy), the image-recorder being connected to the dedicated computer (column 4, lines 11-14 of Kristy) and the record image being passed from the dedicated computer to the image-recorder (column 4, lines 11-14 of Kristy). As is well-known in the art, a compact disc recorder (figure(18) of Kristy) records digital data at a constant rate, wherein said digital data is passed to said compact disc recorder by a computer. Since the multiresolution digital imagery photofinishing system taught by Kristy is clearly meant for multiple uses, then it is inherent that the scanning step is repeated to scan a new plurality of images corresponding to a new customer order (column 4, lines 50-54 of Kristy) from the scanner (column 3, lines 10-17 of Kristy) into a new plurality of digital images (column 3, lines 20-24 of Kristy).

Kristy does not disclose expressly that said image-recorder is connected to the dedicated computer by a second interface bus different from the first interface bus; and that the scanning step is repeated prior to completion of the writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

Crosetto discloses connecting multiple processor nodes (figure 1(200,202,204) of Crosetto), controlled by a master processor node (figure 1(100) of Crosetto) and human user interface (figure 1(102) and column 5, lines 33-40 of Crosetto), using separate interface busses (figure 1(10,12,14) and column 5, lines 23-29 of Crosetto).

Kristy and Crosetto are combinable because they are from similar problem solving areas, namely the control and processing of digital data. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to use separate interface busses, as taught by Crosetto, for the scanner interface bus and the image-recorder interface bus. Thus, the second interface bus would be different from the first interface bus. The motivation for doing so would have been to reduce the total processing time required (column 1, lines 27-32 of Crosetto) which, for the system taught by Kristy, would result in faster image data processing throughput. Therefore, it would have been obvious to combine Crosetto with Kristy.

Kristy in view of Crosetto does not disclose expressly that the scanning step is repeated prior to completion of the writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

However, Crosetto can be modified in view of Gropp to teach further details regarding the basic concepts of parallel processing, by which the teachings of Kristy can be further modified. Gropp discloses the MPI parallel processing command MPI_Send, by which a data message is sent from one device to another, and the MPI parallel processing command MPI_Recv, by which a data message is received from another device (pages 17-18, heading "**Communicators**" of Gropp). MPI_Send, which is known as a "blocking" send (page 17, lines 30-32 of Gropp), sends a block of data from one device to a destination device (page 37, lines 21-28 of Gropp) and then proceeds with the processing that the device performs (page 37, lines 4-7 of Gropp). A device executing the MPI_Recv command receives a block of data from another device, and then continues processing after all the data has been received (page 37, lines 4-7 and page 39, lines 7-13 of Gropp). MPI_Send and MPI_Recv are specific MPI commands that

are designed upon the basic concepts of data packet sending and receiving in parallel processing (page 14, line 15 to page 15, line 34 of Gropp). The data sent using the MPI_Send command can also be sent to different processors by setting a new destination tag ("dest") (page 37, lines 20-34 of Gropp). Essentially, by updating the destination tag (i.e. setting a new value for "i" and thus "dest"), a new receiving processor can be specified. A corresponding MPI_Recv routine must therefore be run on the receiving processor in order to obtain the data.

Kristy in view of Crosetto is combinable with Gropp because they are from similar problem solving areas, namely the control and processing of digital data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the scanner use MPI_Send to send the scanned digital data to the image-recorder, and then proceed with scanning in more data, such as the next customer order, and to have the image recorder use MPI_Recv to receive the digital image data from the scanner, and then proceed with writing the image data to an output medium such as an optical disc. Since the scanning would proceed as soon as the data is sent to the buffers for the image recorder, the scanning step would repeat prior to the completion of the writing step. Further, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to also use an MPI_Send command after the MPI_Recv command is finished processing on the writer. Thus, the record image produced by the writer would be transferred over the second interface bus simultaneously with the transfer of the new plurality of digital images over the first interface bus. In summary, by performing the digital data transfer in parallel using the appropriate MPI commands, first the scanned

digital image data would be sent from the scanner to the writer over the first interface bus (MPI_Send of scanner) and subsequently received by the writer (MPI_Recv of writer). Then, after the first MPI_Send is completed, the scanner would scan a new plurality of digital images while the writer transfers the record image to the image medium using MPI_Send with the proper destination tag. Finally, the scanner performs MPI_Send to send the new plurality of digital images to the writer over the first interface bus while the writer is simultaneously performing the aforementioned MPI_Send to transfer the record image over the second interface bus to the medium. The motivation for doing so would have been to reduce the total processing time required (column 1, lines 27-32 of Crosetto) which is a commonly desired result for parallel processing and which, for the system taught by Kristy, would result in faster image data processing throughput. Therefore, it would have been obvious to combine Gropp with Kristy in view of Crosetto to obtain the invention as specified in claims 1 and 34.

Regarding claim 2: Since the multiresolution digital imagery photofinishing system taught by Kristy is clearly meant for multiple uses, then it is inherent that the processing step is repeated to process the new plurality of digital images (column 3, lines 62-67 of Kristy) and to combine the processed new plurality of digital images into a new record image (column 3, line 68 to column 4, line 5 of Kristy).

Regarding claim 3: Since the multiresolution digital imagery photofinishing system taught by Kristy is clearly meant for multiple uses, then it is inherent that the writing step is repeated to write the new record image to a new medium by the image-recorder (figure(18) and column 3, lines 62-68 of Kristy).

The writing step for the new medium image must be initiated after completion of the writing step for the previous record image since it is not possible for two writing steps to be performed at the same time when there is one image recorder.

Regarding claim 16: Kristy discloses adjusting each of the plurality of digital images which were scanned in from the scanner (column 5, lines 26-31 of Kristy).

Regarding claim 17: Kristy discloses that the adjustment includes cropping (column 5, lines 29-32 of Kristy).

Regarding claim 21: Kristy discloses that the adjustment includes a color adjustment (column 5, lines 29-33 of Kristy).

Regarding claim 22: Kristy discloses that the adjustment includes image editing (column 5, lines 29-33 of Kristy). Addition of text, zooming, cropping, and tone and color corrections (column 5, lines 29-33 of Kristy) are all forms of image editing.

Regarding claim 26: Kristy discloses that the medium is a CD-ROM (figure(20) and column 3, lines 62-68 of Kristy).

Regarding claims 36/1-36/3, 36/16-36/17, 36/21-36/22, 36/26, 36/34, 37/1-37/3, 37/16-37/17, 37/21-37/22, 37/26, 37/34, 38/1-38/3, 38/16-38/17, 38/21-38/22, 38/26 and 38/34: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

5. Claims 4-6, 27, 29-33, 36/4-36/6, 36/27, 36/29-36/33, 37/4-37/6, 37/27, 37/29-37/33, 38/4-38/6, 38/27 and 38/29-38/33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Koakutsu (US Patent 6,031,976).

Regarding claim 4: Kristy in view of Crosetto and Gropp does not disclose expressly that each record image is stored in an image-queue prior to being written to each respective medium by the writing step.

Koakutsu discloses that each record image is stored in an image-queue (storage unit) (figure 1(7) and column 4, lines 13-16 of Koakutsu) prior to being written to each respective medium by the writing step (column 4, lines 15-18 of Koakutsu).

Kristy in view of Crosetto and Gropp is combinable with Koakutsu because they are from the similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store the print data in an image queue before the data is written, as taught by Koakutsu. The motivation for doing so would have been to increase printer throughput and decrease processor burden (column 3, lines 8-11 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 4.

Further regarding claim 5: Koakutsu discloses that the writing step includes the step of obtaining, from image-queue (storage unit), the record image to be written to the medium (column 4, lines 15-18 of Koakutsu).

Further regarding claim 6: Koakutsu discloses that the image queue can be represented by thread instructions (column 5, lines 25-30 of Koakutsu) which are stored on a computer-readable storage medium (column 5, lines 31-33 of Koakutsu), and must therefore be stored as a file. The thread instruction files stored on the computer-readable storage medium provide instructions to the CPU that allow the CPU to properly carry out print operations on the image data (column 5, lines 25-33 of Koakutsu), so said files therefore represent the image-queue.

Regarding claim 27: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a DVD.

Koakutsu discloses storing digital data on any type of disk media including optical disks (column 5, lines 38-43 of Koakutsu), of which a DVD is a well-known type.

Kristy in view of Crosetto and Gropp is combinable with Koakutsu because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Kristy, to a DVD. The motivation for doing so would have been that a DVD is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 27.

Regarding claim 29: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a diskette.

Koakutsu discloses storing digital data on a diskette (column 5, lines 38-41 of Koakutsu).

Kristy in view of Crosetto and Gropp is combinable with Koakutsu are combinable because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Kristy, to a diskette. The motivation for doing so would have been that a diskette is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 29.

Regarding claim 30: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a digital mini-disc.

Koakutsu discloses storing digital data on any type of disk media including optical disks (column 5, lines 38-43 of Koakutsu), of which a digital mini-disc is a well-known type.

Kristy in view of Crosetto and Gropp is combinable with Koakutsu because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Kristy, to a digital mini-disc. The motivation for doing so would have been that a digital mini-disc is one of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine

Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 30.

Regarding claim 31: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a memory card.

Koakutsu discloses storing digital data on an EPROM, EEPROM or Flash EEPROM (column 5, lines 43-46 of Koakutsu), all of which are types of memory cards.

Kristy in view of Crosetto and Gropp is combinable with Koakutsu because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Kristy, to an EPROM, EEPROM or Flash EEPROM. The motivation for doing so would have been that EPROMs, EEPROMs and Flash EEPROMs are some of many types of storage media that can store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 31.

Regarding claim 32: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a memory chip.

Koakutsu discloses storing digital data in ROM or RAM (column 5, lines 43-46 of Koakutsu), both of which are types of memory chips.

Kristy in view of Crosetto and Gropp is combinable with Koakutsu because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Kristy, in ROM or RAM. The motivation for doing so would have been that ROM and RAM are two of many types of storage media that can

store digital data (column 5, lines 43-46 of Koakutsu). Therefore, it would have been obvious to combine Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 32.

Regarding claim 33: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a memory storage device.

Koakutsu discloses storing digital data in many different types of memory storage devices (column 5, lines 40-46 of Koakutsu).

Kristy in view of Crosetto and Gropp is combinable with Koakutsu because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to write the record image, as taught by Kristy, into a memory storage device. The motivation for doing so would have been that memory storage devices can store digital data (column 5, lines 43-46 of Koakutsu), which can then be accessed later. Therefore, it would have been obvious to combine Koakutsu with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 33.

Regarding claims 36/4-36/6, 36/27, 36/29-36/33, 37/4-37/6, 37/27, 37/29-37/33, 38/4-38/6, 38/27 and 38/29-38/33: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

6. Claims 7, 35, 36/7, 36/35, 37/7, 37/35, 38/7 and 38/35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Manico (US Patent 5,764,870).

Regarding claim 7: Kristy in view of Crosetto and Gropp does not disclose expressly generating a print index file containing a thumbnail representation of each of the plurality of digital images and sending the print index file to a printer to print a corresponding print index.

Manico discloses generating a print index file containing a thumbnail representation of each of the plurality of digital images (figure 9a and column 4, lines 60-65 of Manico) and sending the print index file to a printer to print a corresponding print index (column 3, lines 24-25 of Manico).

Kristy in view of Crosetto and Gropp is combinable with Manico because they are from the same field of endeavor, namely the control and processing of digital data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to further generate and print a print index file containing thumbnail representations of each image, as taught by Manico. The motivation for doing so would have been to be able to quickly locate and call up a desired image from a plurality of images (column 1, lines 10-12 of Manico and column 3, line 62 to column 4, line 2 of Kristy). Therefore, it would have been obvious to combine Manico with Kristy in view of

Crosetto and Gropp to obtain the invention as specified in claim 7.

Regarding claim 35: Kristy discloses a scanning step to scan a plurality of images corresponding to a separate customer order (column 4, lines 50-54 of Kristy) from a scanner (figure(12) and column 3, lines 10-17 of Kristy) into a plurality of digital images (column 3, lines 20-24 of Kristy), the scanner being connected to a dedicated computer (figure(14) of Kristy) by a first interface bus (column 3, lines 25-28 of Kristy). In order for the digital data to reach the dedicated computer, a first interface bus is inherent since there must be some form of digital data bus by which the digital data can be transmitted from the scanner to the dedicated computer.

Kristy further discloses an adjusting step to adjust each of the plurality of digital images which were scanned in from the scanner (column 5, lines 26-31 of Kristy).

Kristy further discloses a processing step to process the plurality of digital images (column 3, lines 62-67 of Kristy) and to combine the processed plurality of digital images into a CD-ROM ("optical compact disc") image (column 3, line 68 to column 4, line 5 of Kristy). The CD-ROM image is the conglomeration of digital images that are stored as a record on a storage medium, and can therefore be selected and displayed rapidly (column 3, line 68 to column 4, line 5 of Kristy).

Kristy further discloses a CD-writing step to write the CD-ROM image to a CD-ROM residing in a CD-recorder (figure(18) and column 3, lines 62-68 of Kristy) connected to the dedicated computer (column 4, lines 11-14 of Kristy).

Since the multiresolution digital imagery photofinishing system taught by Kristy is clearly meant for multiple uses, then

it is inherent that the scanning step is repeated to scan a new plurality of digital images corresponding to a new customer order (column 4, lines 50-54 of Kristy) from the scanner (column 3, lines 10-17 of Kristy) into a new plurality of digital images (column 3, lines 20-24 of Kristy), the processing step is repeated to process the new plurality of digital images (column 3, lines 62-67 of Kristy) and to combine the processed new plurality of digital images into a new CD-ROM image (column 3, line 68 to column 4, line 5 of Kristy), and the CD-writing step is repeated to write the new CD-ROM image to a new CD-ROM placed in the CD-recorder (figure(18) and column 3, lines 62-68 of Kristy). The CD-writing step must be repeated after completion of the CD-writing step for the previous CD-ROM image since it is not possible for two CD-writing steps to be performed at the same time when there is one CD-writer.

Kristy does not disclose expressly a generating step to generate a print index file containing a thumbnail representation of each of the adjusted plurality of digital images, the print index file for printing by a printer; that said CD-recorder is connected to the dedicated computer by a second interface bus different from the first interface bus; and that the scanning step is repeated prior to completion of the writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

Crosetto discloses connecting multiple processor nodes (figure 1(200,202,204) of Crosetto), controlled by a master processor node (figure 1(100) of Crosetto) and human user interface (figure 1(102) and column 5, lines 33-40 of Crosetto),

using separate interface busses (figure 1(10,12,14) and column 5, lines 23-29 of Crosetto).

Kristy and Crosetto are combinable because they are from similar problem solving areas, namely the control and processing of digital data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use separate interface busses, as taught by Crosetto, for the scanner interface bus and the CD-recorder interface bus. Thus, the second interface bus would be different from the first interface bus. The motivation for doing so would have been to reduce the total processing time required (column 1, lines 27-32 of Crosetto) which, for the system taught by Kristy, would result in faster image data processing throughput. Therefore, it would have been obvious to combine Crosetto with Kristy.

Kristy in view of Crosetto does not disclose expressly a generating step to generate a print index file containing a thumbnail representation of each of the adjusted plurality of digital images, the print index file for printing by a printer; and that the scanning step is repeated prior to completion of the writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

However, Crosetto can be modified in view of Gropp to teach further details regarding the basic concepts of parallel processing, by which the teachings of Kristy can be further modified. Gropp discloses the MPI parallel processing command MPI_Send, by which a data message is sent from one device to another, and the MPI parallel processing command MPI_Recv, by which a data message is received from another device (pages 17-18, heading "**Communicators**" of Gropp). MPI_Send, which is known

as a "blocking" send (page 17, lines 30-32 of Gropp), sends a block of data from one device to a destination device (page 37, lines 21-28 of Gropp) and then proceeds with the processing that the device performs (page 37, lines 4-7 of Gropp). A device executing the MPI_Recv command receives a block of data from another device, and then continues processing after all the data has been received (page 37, lines 4-7 and page 39, lines 7-13 of Gropp). MPI_Send and MPI_Recv are specific MPI commands that are designed upon the basic concepts of data packet sending and receiving in parallel processing (page 14, line 15 to page 15, line 34 of Gropp). The data sent using the MPI_Send command can also be sent to different processors by setting a new destination tag ("dest") (page 37, lines 20-34 of Gropp). Essentially, by updating the destination tag (i.e. setting a new value for "i" and thus "dest"), a new receiving processor can be specified. A corresponding MPI_Recv routine must therefore be run on the receiving processor in order to obtain the data.

Kristy in view of Crosetto is combinable with Gropp because they are from similar problem solving areas, namely the control and processing of digital data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the scanner use MPI_Send to send the scanned digital data to the image-recorder, and then proceed with scanning in more data, such as the next customer order, and to have the image recorder use MPI_Recv to receive the digital image data from the scanner, and then proceed with writing the image data to an output medium such as an optical disc. Since the scanning would proceed as soon as the data is sent to the buffers for the image recorder, the scanning step would repeat prior to the completion of the writing step. Further, at the time of the

invention, it would have been obvious to a person of ordinary skill in the art to also use an MPI_Send command after the MPI_Recv command is finished processing on the writer. Thus, the record image produced by the writer would be transferred over the second interface bus simultaneously with the transfer of the new plurality of digital images over the first interface bus. In summary, by performing the digital data transfer in parallel using the appropriate MPI commands, first the scanned digital image data would be sent from the scanner to the writer over the first interface bus (MPI_Send of scanner) and subsequently received by the writer (MPI_Recv of writer). Then, after the first MPI_Send is completed, the scanner would scan a new plurality of digital images while the writer transfers the record image to the image medium using MPI_Send with the proper destination tag. Finally, the scanner performs MPI_Send to send the new plurality of digital images to the writer over the first interface bus while the writer is simultaneously performing the aforementioned MPI_Send to transfer the record image over the second interface bus to the medium. The motivation for doing so would have been to reduce the total processing time required (column 1, lines 27-32 of Crosetto) which is a commonly desired result for parallel processing and which, for the system taught by Kristy, would result in faster image data processing throughput. Therefore, it would have been obvious to combine Gropp with Kristy in view of Crosetto.

Kristy in view of Crosetto and Gropp does not disclose expressly a generating step to generate a print index file containing a thumbnail representation of each of the adjusted plurality of digital images, the print index file for printing by a printer.

Manico discloses a generating step to generate a print index file containing a thumbnail representation of each of the adjusted plurality of digital images (figure 9a and column 4, lines 60-65 of Manico), the print index file for printing by a printer (column 3, lines 24-25 of Manico).

Kristy in view of Crosetto and Gropp is combinable with Manico because they are from the same field of endeavor, namely the control and processing of digital data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to further generate a print index file containing thumbnail representations of each image, as taught by Manico. The motivation for doing so would have been to be able to quickly locate and call up a desired image from a plurality of images (column 1, lines 10-12 of Manico and column 3, line 62 to column 4, line 2 of Kristy). Therefore, it would have been obvious to combine Manico with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 35.

Regarding claims 36/7, 36/35, 37/7, 37/35, 38/7 and 38/35: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

7. Claims 8-10, 36/8-36/10, 37/8-37/10 and 38/8-38/10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming*

with the Message-Passing Interface, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), Manico (US Patent 5,764,870), and Bellucco (US Patent 5,930,465).

Regarding claim 8: Kristy in view of Crosetto, Gropp and Manico does not disclose expressly that the step of generating a print index file includes sending the print index file to a print queue; and that the step of sending the print index file to the printer includes retrieving a next print index file from the print queue.

Bellucco discloses sending a print file (column 4, lines 23-25 of Bellucco) to a print queue (column 4, lines 46-50 of Bellucco); and retrieving the next print file from the print queue (column 8, lines 11-17 of Bellucco).

Kristy in view of Crosetto, Gropp and Manico is combinable with Bellucco because they are from the same field of endeavor, namely image processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to send and retrieve files to be printed using a print queue, as taught by Bellucco, said print file being the print index file taught by Manico. The motivation for doing so would have been to be able to process print jobs from many clients (column 2, lines 44-46 of Bellucco). Therefore, it would have been obvious to combine Bellucco with Kristy in view of Crosetto, Gropp and Manico to obtain the invention as specified in claim 8.

Further regarding claim 9: Bellucco discloses that the print queue is represented by a print queue file (figure 7 and column 5, lines 43-45 of Bellucco).

Regarding claim 10: Kristy in view of Crosetto, Gropp and Manico does not disclose expressly that the print index file is sent to the printer regardless of whether the record image corresponding to the plurality of digital images represented in the print index file has been written to the medium in the writing step.

Bellucco discloses that a job ticket is processed (column 8, lines 52-54 of Bellucco). Then, the corresponding print job is either saved in a print ready format (column 8, lines 55-61 of Bellucco) or not saved (column 8, lines 66-67 of Bellucco). This is shown graphically in figure 10 of Bellucco. After the job ticket is processed (figure 10(132) of Bellucco) it is either saved (figure 10(134→136) of Bellucco) or not saved, wherein the processing returns to querying the remote server (figure 10(134→116) of Bellucco).

Kristy in view of Crosetto, Gropp and Manico is combinable with Bellucco because they are from the same field of endeavor, namely image processing and printing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to be able to select to either save the print file or not save the print file, as taught by Bellucco, said print file being the print index file taught by Manico. Therefore, the print index file would be sent to the printer regardless of whether the record image corresponding to the plurality of digital images represented in the print index file has been written to the medium in the writing step. The motivation for doing so would have been to permit client rights to be obtained for saving the print job on a server (column 7, lines 33-35 of Bellucco). Therefore, it would have been obvious

to combine Bellucco with Kristy in view of Crosetto, Gropp and Manico to obtain the invention as specified in claim 10.

Regarding claims 36/8-36/10, 37/8-37/10 and 38/8-38/10: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

8. Claims 11-14, 36/11-36/14, 37/11-37/14 and 38/11-38/14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Fukushima (US Patent 6,289,416 B1).

Regarding claim 11: Kristy in view of Crosetto and Gropp does not disclose expressly generating a write status indicator which is used to indicate a success in the event that the record image is successfully written to the medium, and which is used to indicate an error in the event that the record image is not successfully written to the medium.

Fukushima discloses generating a write status indicator which is used to indicate a success in the event that a digital data file is successfully written to the medium (column 8, lines 25-30 of Fukushima), and which is used to indicate an error in

the event that the digital data file is not successfully written to the medium (column 8, lines 46-51 of Fukushima).

Kristy in view of Crosetto and Gropp is combinable with Fukushima because they are from similar problem solving areas, namely successfully storing digital data on a medium. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use an indicator to indicate whether or not a digital data file is successfully written, as taught by Fukushima, said digital data file being the record image taught by Kristy. The motivation for doing so would have been to be able to recover from data write errors (column 3, lines 3-10 of Fukushima). Therefore, it would have been obvious to combine Fukushima with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 11.

Further regarding claim 12: Fukushima discloses that the writing step is repeated for the same digital data file if the write status indicator indicates an error (column 8, lines 46-51 of Fukushima) and is therefore not repeated for a new digital data file.

Further regarding claim 13: Fukushima discloses that the writing step is repeated for the same digital data file if the write status indicator indicates an error (column 8, lines 46-51 of Fukushima).

Regarding claim 14: Kristy in view of Crosetto and Gropp does not disclose expressly that the record image is compared to the medium at the end of the writing step to determine if the record image is successfully written to the medium.

Fukushima discloses that the digital data file is compared to the medium at the end of the writing step (column 7, lines 37-43 of Fukushima) to determine if the digital data file is

successfully written to the medium (column 8, lines 11-14 of Fukushima).

Kristy in view of Crosetto and Gropp is combinable with Fukushima because they are from similar problem solving areas, namely successfully storing digital data on a medium. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to verify that the digital data file is written without errors, as taught by Fukushima, said digital data file being the record image taught by Kristy. The motivation for doing so would have been to be able to recover from data write errors (column 3, lines 3-10 of Fukushima). Therefore, it would have been obvious to combine Fukushima with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 14.

Regarding claims 36/11-36/14, 37/11-37/14 and 38/11-38/14: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

9. Claim 15, 36/15, 37/15 and 38/15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Yanagisawa (US Patent 6,421,782 B1).

Regarding claim 15: Kristy in view of Crosetto and Gropp does not disclose expressly that the first interface bus is a SCSI interface and the second interface bus is an IDE interface.

Yanagisawa discloses using a SCSI interface to connect a scanner to a computer (column 13, lines 22-24 of Yanagisawa) and an IDE interface to connect a CD-ROM drive to a computer (figure 1(26) and column 10, lines 26-35 of Yanagisawa).

Kristy in view of Crosetto and Gropp is combinable with Yanagisawa because they are from similar problem solving areas, namely digital data processing and control. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a SCSI interface for the first interface bus, and thus connected the scanner, and an IDE interface for the second interface bus, and thus connect the image-recorder. The motivation for doing so would have been that devices requiring relatively fast data transfer, such as scanners, need to be connected using a SCSI interface bus (column 13, lines 15-19 of Yanagisawa). Therefore, it would have been obvious to combine Yanagisawa with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 15.

Regarding claims 36/15, 37/15 and 38/15: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

10. Claims 18-20, 36/18-36/20, 37/18-37/20 and 38/18-38/20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Bouton (*Inside Adobe® Photoshop® 5*, by Gary David Bouton and Barbara Bouton, copyright 1998, New Riders Publishing).

Regarding claim 18: Kristy, Crosetto and Gropp does not disclose expressly that the adjustment includes rotating.

Bouton discloses editing an image by rotating (page 555, lines 4-9 of Bouton).

Kristy, Crosetto and Gropp is combinable with Bouton because they are from the same field of endeavor, namely digital data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust the image by rotating. The motivation for doing so would have been to correct for tilt in an image (page 555, lines 1-2 of Bouton). Therefore, it would have been obvious to combine Bouton with Kristy, Crosetto and Gropp to obtain the invention as specified in claim 18.

Regarding claim 19: Kristy, Crosetto and Gropp does not disclose expressly that the adjustment includes a contrast adjustment.

Bouton discloses editing an image by a contrast adjustment (page 394, line 10 to page 395, line 4 of Bouton).

Sano in view of Koakutsu and Kristy is combinable with Bouton because they are from the same field of endeavor, namely digital data processing. At the time of the invention, it would

have been obvious to a person of ordinary skill in the art to adjust the image by a contrast adjustment. The motivation for doing so would have been to remove fuzziness in an image (page 394, lines 5-7 of Bouton). Therefore, it would have been obvious to combine Bouton with Kristy, Crosetto and Gropp to obtain the invention as specified in claim 19.

Regarding claim 20: Kristy, Crosetto and Gropp does not disclose expressly that the adjustment includes a sharpness adjustment.

Bouton discloses editing an image by a sharpness adjustment (figure 13.15 and page 395, lines 1-8 of Bouton).

Kristy, Crosetto and Gropp is combinable with Bouton because they are from the same field of endeavor, namely digital data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to adjust the image by a contrast adjustment. The motivation for doing so would have been to remove fuzziness in an image (page 394, lines 5-7 of Bouton). Therefore, it would have been obvious to combine Bouton with Kristy, Crosetto and Gropp to obtain the invention as specified in claim 20.

Regarding claims 36/18-36/20, 37/18-37/20 and 38/18-38/20: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

11. Claims 23, 28, 36/23, 36/28, 37/23, 37/28, 38/23 and 38/28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and well-known prior art.

Regarding claim 23: Kristy discloses that the thumbnail representation of each of the plurality of digital images is displayed (column 4, lines 42-46 of Kristy) on a monitor (figure 1(16) and column 5, lines 16-17 of Kristy) connected to the computer (column 3, lines 28-32 of Kristy). Each digital image is adjusted based on a menu-driven user selection (column 5, lines 29-31 of Kristy).

Kristy in view of Crosetto and Gropp does not disclose expressly that each digital image is adjusted by a pointing device connected to the computer.

However, a pointing device used for choosing selections and adjustments, such as a mouse, connected to a computer is old, well-known and expected in the art, and has been considered admitted by Applicant. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a pointing device connected to a computer to adjust the digital image since a pointing device is a common and convenient means to input data into a computer.

Regarding claim 28: Kristy in view of Crosetto and Gropp does not disclose expressly that the medium is a digital tape.

However, a digital tape to store digital data is old, well-known and expected in the art, and has been considered admitted by Applicant. It would have been obvious to one of ordinary

skill in the art at the time of the invention to write the record image onto a digital tape since a digital tape is a common and convenient means to store and later reaccess digital data.

Regarding claims 36/23, 36/28, 37/23, 37/28, 38/23 and 38/28: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

12. Claims 24, 36/24, 37/24 and 38/24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Hoyt (US Patent 6,085,195).

Regarding claim 24: Kristy in view of Crosetto and Gropp does not disclose expressly that the scanning step and processing step are performed in a second computer which is connected to the dedicated computer via a network, and the writing step is performed in the dedicated computer.

Hoyt discloses a second computer (remote kiosk) (figure 3 (126) of Hoyt) which performs the steps of scanning (column 8, lines 14-17 of Hoyt) and processing (column 8, lines 27-30 of Hoyt) and is connected to a dedicated computer (web server) via a network (column 9, lines 5-6 and lines 16-18 of Hoyt); and the

writing step is performed in said dedicated computer (column 9, lines 3-10 of Hoyt).

Kristy in view of Crosetto and Gropp is combinable with Hoyt because they are from the same field of endeavor, namely digital data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to scan and process the image on a second, remote computer and write the data onto the dedicated computer. The motivation for doing so would have been to be able to store the image data on a central server, such as a web server (column 9, lines 8-12 of Hoyt), and thus be able to access the image data remotely. Therefore, it would have been obvious to combine Hoyt with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 24.

Regarding claims 36/24, 37/24 and 38/24: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are executed with a processor, since this is the manner in which digital computers operate.

13. Claims 25, 36/25, 37/25 and 38/25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristy (US Patent 5,218,455) in view of Crosetto (US Patent 5,590,284), Gropp (*Using MPI - Portable Parallel Programming with the Message-Passing Interface*, second edition, by William Gropp, Ewing Lusk and Anthony Skjellum, copyright 1999, The MIT Press, pages 14-18 and pages 35-42), and Doerr (US Patent 5,949,411).

Regarding claim 25: Kristy in view of Crosetto and Gropp does not disclose expressly that a second computer is connected to the dedicated computer, and wherein the scanning step and the processing step are performed in the dedicated computer and the writing step is performed in the second computer.

Doerr discloses a second computer (figure 2(K-1) of Doerr) that is connected to the dedicated (host) computer (figure 2(11) of Doerr) (column 4, line 65 to column 5, line 4 of Doerr). The scanning step (column 6, lines 11-16 of Doerr) and processing step are performed in the dedicated computer (column 6, lines 16-21 of Doerr). The writing step is performed in the second computer (column 6, lines 22-30 of Doerr).

Kristy in view of Crosetto and Gropp is combinable with Doerr because they are from the same field of endeavor, namely digital data processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to scan and process the image data on the dedicated computer and write the image data on the second computer. The motivation for doing so would have been to be able to provide image data from a centralized database (column 6, lines 22-26 of Doerr). Therefore, it would have been obvious to combine Doerr with Kristy in view of Crosetto and Gropp to obtain the invention as specified in claim 25.

Regarding claims 36/25, 37/25 and 38/25: Kristy discloses performing all of the processing steps with a host computer (figure(14); column 3, lines 1-3 and lines 25-28; and column 4, lines 2-5 and lines 62-65 of Kristy), which would therefore include the computer-executable process steps stored on a computer-readable medium, wherein said process steps are

executed with a processor, since this is the manner in which digital computers operate.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

02 September 2005

Thompson D
~~Tommy~~ LEE
PRIMARY EXAMINER